1: Underhill E-5 (1931-1935)1946 NU28 Papago NU28

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BACKGROUND

THE Papago Indians, in the deserts of southern Arizona, were an agricultural people, thoroughly adapted to farming and food gathering in an arid country, yet they were obliged to be semi-nomadic. There were no rivers in their country, and they had to "follow the water" in order to keep alive. They spent their winters camping near small mountain springs, in shelters which were often roofless, guarding their few possessions from the wind, but exposed to the southern sunlight. When June brought a ripening of the giant cactus, nourished on the water in its fleshy trunk, they flocked to the hills to collect its fruit. Finally, with the first July showers, they migrated to the open plain, where their domed brush huts were clustered in permanent villages, uninhabited except in the rainy season. Here they could stay as long as the summer cloudbursts filled their primitive reservoirs and softened the rocklike adobe of their fields. When the corn, beans, and squash were harvested and the reservoirs were dry, they returned to the mountains.

This was their life practically up to the present generation. They were first visited by Kino, the Spanish missionary, in 1691, and after that they had sporadic contacts with Spanish whites during two centuries and a half. Yet their desert was too uninviting to be made a goal of empire, and they were never "reduced," like their Uto-Aztecan kinsmen of Sonora. Even when half their country became American, by the Gadsden Purchase of 1854, they remained almost unvisited. White pioneers streamed along the Gila north of them, bringing profound changes to the Gila Pima, their blood brothers. Still the "Desert People," as the Papago call themselves, remained aloof and almost unknown. They had not even a large reservation until 1917. No wonder they have retained almost to

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drunk yearly in order to bring rain, but that there must always be a speech of admonition forbidding the people to quarrel or misbehave when they drink.(1)

The families returned from the cactus camp to the summer villages, where they would do their planting as soon as they had "pulled down the clouds." In old days no planting was allowed until after the ceremony. At present, the villages in the southern part of the reservation no longer hold it, and those in the north hold theirs seriatim, so that one man, if he wished, could attend all in turn.

The date of the festival was discussed by the elders of each village. Then a formal meeting was held at which announcement was made that the festival would take place in four days. Everyone was instructed to bring his share of syrup, within two days' time. At Kaka there was a call from the house tops to this effect:

CALL TO BRING SYRUP

Hurry! Hither bring, each of you, his syrup.
Soon we shall make liquor!
Soon it will ferment,
Soon we shall drink,
Soon it will rain.(3)

Any village which possessed sacred objects brought them from their hiding place and placed them with the liquor during fermentation. Santa Rosa, whose sacred basket contains a long string of eagle feathers, hung them up outside the council house. Pisínimo, which keeps hidden in the desert a basket containing eagle down and various fetishes, sent a man to get this basket and bring it to the ceremonial house. They also sent runners to the related villages, asking for gifts of eagle down and deer tails, which, when brought, were offered to the basket to increase its power. The keeper of the smoke, at the meeting where the festival was announced, gave directions in the verbose, colloquial style which is so different from the recited rituals.

2. Know that you are to appoint youths who will run about to all the houses and request deer tails, eagle down, and beads. One must go to the shaman and summon him to come here in the morning, to

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of the villagers learning the songs and singing with them. When they were ready, they either presented the skipping dance and then the naming songs, or else the naming songs alone. In either case, the first act was the challenge and the songs to the four directions. Before the naming songs, the whole of the visiting village marched around the plaza, two by two. Then they took their places, at one side of the plaza and a group of boys and girls danced during the naming songs just as they did in the visiting dance.

The first song sung was always "for the fields," since this was in November when the hosts had not left for the "wells," their winter camp. Mentioning the richness of the fields automatically brought the result. After that came songs for the shamans and the other prominent men in turn, always ascribing to them the blessings or the qualities they would like to have. The prompter sat beside the singers, with all the sticks in a row in front of him, and as each pair of names was disposed of, he removed the corresponding sticks.

NAMING SONGS

FOR THE FIELD

12. It is full daylight,
And I sing.
It is full daylight,
And I sing.
Lo, it is Komari'k field!
Very rich it is;
I sing for it.

It is full daylight,
And I sing.
It is full daylight,
And I sing.
Lo, it is Field of the Black Hill [Tucson].
Very rich it is;
I sing for it.(9)

FOR THE SHAMANS

13. [As we march] along
The shamans come forth with us;
The shamans come forth with us.

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Pa Pi 137 stream beds the bean bearing mesquite and palo verde stretch their roots down to underground water. On the plain grows the creosote bush and sometimes nothing else.

Pa Pi 132 This is one of the hottest and driest areas in the United States, the annual rainfall in the interior being about five inches.[1] Yet those five inches rendered subsistence possible for the Desert People. They are concentrated in the summer months of July and August when the daily cloudburst produces a temporary flood which may cover the flat plain to a depth of six inches for a square mile. In a day or two there sprout the seeds of annuals which may have remained inactive for several seasons, awaiting sufficient moisture. The succulent cacti swell, storing water for the dry months. The deciduous trees put out tiny leaves, exposing to the glare as little green as possible.

Pa 221 For two months while the desert bloomed, the Papago picked and stored every root, stalk, leaf and fruit that it produced. Where the flood water had softened the soil, they planted small gardens which, begun in mid-July, had just time to mature before frost. All the harvest was dehydrated in the blazing desert sun and stored to furnish food in the dry months. Then the rain ceased; the rain reservoirs which had supplied drinking water for the valley dwellers dried up; life was impossible unless the population moved to the foothills where there were springs.

Pa [657] Until very recently, when the United States government has dug wells in the valleys, this was the life of the Papago. It precluded their having permanent houses, either for dwellings or for ceremonies. It prevented a centralized form of organization such as has been suggested for the Pima, both on the Gila and the San Pedro. But it kept the Papago unmolested until long after these others had disappeared or had assimilated White ways.

Pa 174 Yet the Desert People, harassed by Nature as they were, found opportunity to practise all the arts described for the more fortunate Pima,[2] with only minor differences, due to materials. We may picture them, up to a few generations ago, living in round, semi-subterranean houses, often earth covered. They dressed in skirts and breechclouts of buckskin and, less often, cotton and wore sandals when they had any footgear at all. Their pottery was of coarse red clay, shaped by paddle and anvil with, only rarely, a decorated jar for offerings and seed storage. The bulk of their utensils was of basketry: plaited, coiled or netted in the intricate technique known as coil without foundation. These are old arts in

[1] Bryan, pp. 29—30.
[2] Russell, pp. 68—181. Castetter and Underhill, pp. 48—63.

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VILLAGE GROUPINGS

A Papago village official addressed his speeches not to "my fellow townsmen," but to "my kinsmen." For applause, each one called him by the kinship term and it was rarely that anyone had to substitute "my friend." A village was a settlement of kin and others entered it only by invitation or by marriage.

But a village was not a constant unit, for desert conditions, before the digging of government wells, did not permit of year-long residence in any one place. In the summer, when rains filled the shallow reservoirs scooped out with blades of wood and stone, the people could live in the flat country whose name is the same as that for "land" and "ground" and here they could have their fields near the mouths of washes. Such a farming settlement was known not as a village but as Fields, since these were the important thing.

The fields could be occupied only during the summer rainy season and as long afterward as the water lasted in the reservoir: then the people must move to the foothills where there were springs. Each Field had its foothill camp, known as the Well where its residents kept duplicates of the objects they could not transport, such as metates and water jars and where they had at least the posts for a shelter. Sometimes one Well would not accomodate all the Field people and then they had several. Sometimes two related villages used the same Well, but then they kept apart and established no gift intimacies with their new neighbors. When one changed his Field village, for good reason, he was still not expected to change his Well village. Relationships in each were permanent.

The result was that each village had a dual existence, in summer at the Fields, and in winter at the Wells. Many censuses have come to grief over this difficulty. But Field and Well together were part of a larger group. In the course of time, the villages had proliferated, sending out one group after another to look for more land. The new settlement thus made might be only a suburb of the home village, obeying its officials and coming home for ceremonies But sometimes the daughter village was so large or so far away that it needed a leader of its own. Then it appointed one, but considered him always subsidiary to the leader of the parent village. The new hamlet might also, in course of time acquire a fetish and hold a few ceremonies in imitations of those at home. But, on great ceremonial

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ECONOMICS

511 556 Poor as the Papago country was, its economics were those of abundance. Papago did not hoard property; they did not quarrel about land boundaries; they were constantly giving, as though from an inexhaustible supply. The answer is that the supply, meagre though it was from the modern point of view, was sufficient, for their simple needs and more.

431 Food was the principal gift and food will not keep in that hot country except in dehydrated form. Because of the migratory life, it must be left unguarded in storehouses and caches, subject to attack by animals or enemies. Better to dispose of any surplus while it was available and palatable and thus invest in good will! And anything but starvation rations was considered a surplus. The [262] standard meal was corn meal gruel: luxuries much beyond that were donated with lavish hand and never missed.

Giving became the regular Papago investment and the franker individuals say so. It never reached the extravagant proportions demanded in the Plains for all Papago life was in a gentler key. But one who gained the reputation of stinginess had damned his prospects in village and family life while the lavish giver not only achieved honor but had a continual income pouring in. For all gifts were returned, in equal quantity and more. The constant exchange [438] of goods in the form of gifts was the Papago equivalent for trade and merged only occasionally into trade in the stricter sense. Papago economics involves principally the study of groups which had gift relations.

The center of the system was the patriarchal family which, rather than the individual, must be taken as the unit both of property holding and of gift exchange.The family was a business concern, producing and disposing of goods under the direction of its male and female heads, and such production meant a full time occupation. This was not the sort of society where the men, when not hunting or [461 fighting, had the privilege of leisure: the men were day laborers like 562] the women. All rose with the morning star, rested in the heat of noon and did not stop work until dark. It was slow motion labor, for the heat forbids haste. But it was unremitting. Industry was the prime virtue and no one could get a mate or keep one without it.

221 462 We have noted the division of labor between male and female: a division so sharp that it kept the two sexes in separate groups during

2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28

daylight hours. But there was also a division according to season and age. In summer, the older men did the farm work, with help from the young men and women at planting and harvest. The young men did some hunting, travelling, ditch building, house building and practiced for the races on which the old men bet. Women, in summer, gathered wild foods, the older women cooked and made baskets while the young ground corn and fetched wood and water. In winter the old men made rope, tools and weapons while the young men fought and hunted deer: the old women still cooked and the young ones were, as always, the wood and water carriers.

The distinction between young and old approached that in a modern society between laboring and employing classes. Heavy labor, everywhere, was done by the young, under the direction of the old. Young men had no voice in council or even in the planning of a war raid, an occasion when, in some Indian societies, they were so prominent. Young women did not manage their households. Youth was considered unfit for thinking and planning and, both in the household and the village, the commanding positions belonged to the old.

It was also the old who practiced the special crafts whose returns went beyond the scope of gifts and became commercial goods. The constant labor required of youth left little time for the long process of learning pottery, netting, mat plaiting, skin dressing and weaving by the Papago process of imitation and repetition. Men and women did not "sit down" to these crafts until middle age. Coiled basketry was the one exception to the rule, for baskets were a necessity and every girl had to learn enough about them to make one during her puberty seclusion. But the other specialties often were not begun until there were grown sons and daughters-in-law in the home to carry on the day's work.

Among the mens' specialties, deer hunting was the most common and was the only one practiced by young men. It meant a long apprenticeship beginning in boyhood and involving the learning of magic and the clever use of the deerhead disguise. One man in a family was sometimes the hunter while the others attended to the land. The other arts were tool making, weaving and skin dressing. The last two are handed over to women in tribes where all the men are busy with war and hunting. But young Papago women had a full time occupation as mere carriers and neither war nor hunting was a major occupation. The women's arts were the plaiting of sleeping mats and of ceremonial baskets, the netting and dying of the intricately made carrying net, the weaving of bands on the belt loom and the making of pottery.

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clearing and felt that, thereafter, he need not share the produce of his fields with those who were using the family inheritance (I, 8, B, 1). As the village grew larger, available land was further and further away: those who took it up moved their residence and the family group became segmented. Ultimately some of the segments had to found new villages.

There are a few examples of men who had land but moved to get something better. These did not relinquish the old land but sent a member of the family to cultivate it so that in the end the family possessed plots at two different Fields (I, 1, A, 1; I, 3, B, 1). There was here a chance for aggrandizement and for a higher standard of wealth than the Papago usually had, but few seem to have thought of warding off starvation in this way. The close family group and the Fields which barely gave it a living, were the rule.

Occasionally families died out and then the Council, on request, assigned their land to someone else. After many deaths, the surviving members often deserted the land on the same principle that they pulled down the house, to prevent its being visited by ghosts. The ghosts would not lure away with them any but the family so it was safe for non-relatives to live there. But they must ask the family's permission and if any of them returned after a safe interval, the land must be given back. But no payment in crops was made during its use.

Since almost every one in a village was related it was rare for any one to move in who was not provided for in some family group. But if a stranger did wish to enter, and take up land, abandoned or new, he went to the Council and asked permission. The Council did not look up his references but simply tried him out. If he proved a desirable neighbor, he was allowed to stay.

The Well villages were composed of groups of relatives, smaller than those at the Fields, since the Well could serve only a limited number. But often the personnel at the Well was somewhat different. The group in 1, 1 were living at the Fields of their mother's family since their father was dead but in winter they went to the Well used by the father's group as they had in his lifetime. Through this sort of shift, a family might belong to two economic groups, one functioning in the dry season, one in the wet. But some, like 1, 5, A, 1 formed a new group and did not change.

Beside the shift from Field to Wells, there were briefer migrations to food gathering grounds where families kept permanent camps. In late June and early July, every family went for three or four weeks to the foothills to gather the fruit of the giant cactus whose juice was fermented for the liquor ceremony. As a rule, each

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221 423 222 village located a good grove in the foothills nearest it and the families chose their camping sites there. In this case there was no consultation with the Council for the cactus groves were very extensive and there was plenty of room. Nearly related families placed their camps together with a picking grove around them a half mile or more square, or such that the women of the combined families could just manage to keep the groves picked clean as the fruit ripened. The next campers settled far enough away so as to give themselves room and not interfere. No one would settle near an established camp unless he was a relative and then only after asking permission and no one, looking for a new camp, would go to the hills already pre-empted by a village not his own.

However, residents of one village often asked their relatives from another village to make cactus camp with them; married daughters came back to camp with their families and people who had formed new Field villages used the old cactus camp. This shifting of personnel furnished almost as much excitement as the journey to a ceremony and formed a relief for relatives living in close contact the rest of the year.

221 273 222 423 A family thus using the cactus grove of a village not their own felt bound in honor to bring the gathered juice to the ceremony of the host village. Tradition says that, in the old days, all juice was fermented in the council house with none kept for private consumption. That constituted the guests ceremonial laborers for the host village. At present a great deal of the liquor is used for home consumption and people want more of it. Also they are less willing to camp in the waterless groves where water has to be transported a long distance and they are beginning to encroach on the groves of people camped in the more accessible places. "But I would not say anything," said a man who had suffered this. "The cactus is for all. We did not make it and the people who pick it are bringing rain." A woman, less tolerant, followed the trespassers all the way out of the grove, scolding them. But the rest of her family disapproved and would say nothing. The Papago tradition of peaceableness was strong.

221 222 423 [252] The cholla and the prickly pear grew in the same general locations as the giant cactus and when they were in season the women of the family went back to the cactus camp for two or three days, drying or eating the prickly pear and pit-baking the cholla on the spot. For each of the other staples they had a special location: mesquite beans by the washes, yucca on hilltops; roots and greens in low wet places. There were no family camps in these gathering grounds but each was understood to be pre-empted by a village or by several related villages.

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House E

1 wife's m b to A 1, with wife and children

Land: Had moved to Devil when his niece, now dead, had married, because there was more land.

Work Sharing: Cultivated his own field with sons, called the others in at harvest time to help themselves.

Gifts: Sent food gifts frequently to House F, his relative, less often to A, B, C, D, affinals.

House F

1 ob s of dead wife of A 1, with wife and children

Land: F 1 had land in Achin where the wife of A 1 had lived. Being crowded there, and finding more at Devil, he moved without asking permission. He kept with the Devil people even in summer, when they moved back among his own relatives.

Work sharing: He worked his field with his sons, but when he needed help he called on his nearest relative, E 1.

Gifts: At harvest time affinal relatives at Devil were asked to help themselves and paternal kin from Akchin were sent for.

592 ● 221 In winter, when water failed at Devil, Households A, B, C, and F moved to Mulberry Well, the winter camp used by the people of Akchin, the home of the dead wife of A 1. Here they met a group of this woman's relatives, but camped three quarters of a mile away from them and exchanged gifts only rarely. Their customary gift giving went on in their own circle. It may be mentioned that E 1 and F 1 were both Akchin people but, having moved to Devil, they now made their winter camp with its residents and formed part of their gift giving circle, not that of their nearer kin.

[621] Group at Comobabi (Mulberry) Well

Houses A, B, C, E, F, as at Devil

House G

1 f of dead wife of A 1
2 wife of G 1
3 f of G 2

House H

Brothers of dead wife of A 1 with wives and children

House I

Mother's brothers of dead wife of A 1

A few relatives of A 1 himself also came to Mulberry Well, but stayed near the relatives of A 1's dead wife and exchanged gifts with them because they had fields near them at home and had "got used to it." These were:

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But we did not stay at Mesquite Root all the time. We were hungry people, we and my father's brothers and his cousins who lived around us. In those winter days my father went to hunt deer and sometimes we all went with him down over the Mexican border to pick the century plant and roast it or to get stalks for our basketry or clay for our pots.

All the year round we were watching where the wild things grew so we could pick them. Elder Brother planted those things for us. He told us where they are and how to cook them. You would not know if it had not been Given. You would not know you could eat cactus stems and shake the seeds out of the weeds. Elder Brother did not tell the Whites that. To them he gave peaches and grapes and wheat, but to us he gave the wild seeds and the cactus. Those are the good foods.

There was a kind of cactus called cholla, and when its buds were green we all went and stayed for many days picking them, up in the hills. We pulled the tops of some palo verde trees together and piled greasewood bushes over them to make a shelter and there we lived. My uncles made shelters, too, and my mother and my uncles' wives all went together to pick the cactus. They broke off the new stems with tongs and rolled them around on the ground to get the thorns off, and then baked them all night in a big pit. They smelled fresh and fine when they came out. When the big pit was roasting slowly in the night, the women threw green cholla stems on the campfire ashes to cook. We pulled them out, knocked off the thorns, and ate them hot. Ah, good, good food! We ate nothing else for those three weeks. Green things!

At last the giant cactus grew ripe on all the hills. It made us laugh to see the fruit on top of all the stalks, so many, and the men would point to it and say: "See the liquor growing." We went to pick it, to the same place where we always camped, and every day my mother and all the women went out with baskets. They knocked the fruit down with cactus poles. It fell on the ground and all the red pulp came out. Then I picked it up, and dug it out of the shell with my fingers, and put it in my mother's basket. She told me always to throw down the skins with the red inside uppermost, because that would bring the rain.

It was good at cactus camp. When my father lay down to sleep at night he would sing songs about the cactus liquor. And we could hear songs in my uncle's camp across the hill. Everybody sang. We felt as if a beautiful thing was coming. Because the rain was coming and the dancing and the songs.

Where on Quijotoa Mountain a cloud stands
There my heart stands with it.

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Then the spider sang to me: 159x 787

Gray spider
Magic making
At the cave entrance hanging
Do not think I shall fall.
Twice I go up and down
And I return again
Therefore I am hanging, hanging here.

Our men went to hunt deer on the hills, because those summer days are when the does are big with young and taste sweet. Or else they worked in our field. There were so many men that we girls did not have to help weed the corn. But we took cactus syrup out to the field, mixed with water, that the men might drink it while they knelt on the hot earth, pulling a mesquite stick to and fro to cut off the weeds. They were going to be medicine men, all three of our husbands, and perhaps they already had visions, but they worked like other men. Ah, that was a clever household! Three medicine men and one man-woman. 159x 224 241

We girls used to spend all day with that man-woman, Shining Evening. She went off with us to gather plants and she could carry more than any of us and dig longer. She ground corn with us, all taking turns at my mother-in-law's grinding slab. 159x 838

Our husbands used to tease us girls. "How do we know these children running around the house belong to us! We are away in the mountains all the time and in the fields. It is Shining Evening who is with the women." Then they would laugh and say to the babies: "Run along! Over there is your daddy!" When they got us alone they would say: "Is he really all right?" We said: "Yes, Just like a woman. We have forgotten he is a man."

When the summer was over and the pond dried up Where the Water Whirls Around, we took our babies and went moving over the hills, following the water. Over the mountains where you call it Mexico, there were more of our people who had water ditches in their fields. We worked for them and they gave us food. With many other villages we went, as if to war, because of the Apaches. We sent word all around with little sticks, ten or twelve, so that people might count them and know the day when we were going. Then we started out, the children and the bedding and a small grinding stone on a horse, and we women running beside with our carrying nets, with all the pots, and perhaps the baby on top. Far up in the hills, our husbands went running with their bows and arrows, looking for deer, and sometimes they met us with loads of meat on their backs. 159x 221 464

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At night we camped and my mother-in-law cooked a big pot of gruel. Next day I carried it among my pots so we could stop and eat it at midday. I used to be so hot and thirsty on that journey. Once, running at night, because it was too hot to travel in the day, I caught my foot in a rat's nest. Down I fell and broke all the pottery. My husband said: "Crazy one!" But Shining Evening was good to me on those trips. She was stronger than we women and when I was tired she carried my baby for me. No man could do that; it would not be right. Shining Evening was a great help.

The bean harvest of those Mexicans would be over when we arrived, and they let us go through their fields picking up the gleanings. We girls and our husbands worked, and my mother- and father-in-law went to and fro on our one horse taking the gleanings to a storage place in the mountains.

After that we worked for those Mexicans. We ground wheat and we carried wood and water. The men went up into the hills and hacked off the century plants and roasted them in pits to sell. And there they hunted, and brought down deer and hides to sell to those Mexicans. We women stayed at the foot of the hills and dug clay for pottery. Then my mother-in-law made pots, for she was clever. We young girls sat polishing them all day with little smooth stones. Oh, beautiful pots we made and earned our food! Shining Evening made pots, too, but for whiskey. She would sit there and laugh and say: "Here are my hands and here the clay. I can have what I want. Give me a bottle of whiskey."

Sometimes in the winter we went north to cut wheat for the River People and it was there that I dropped my second baby in a wheat field. And once my husband and I left the babies at home and went alone to harvest figs for the Mexicans. It was in the middle of summer but there were many people at home to work, so we got on our one horse and said: "Look! We will go to earn something for you."

We had never been before without the other Desert People, so we kept a good watch for the Apaches. It was a two day journey and my husband did not sleep all night. We only dismounted for a little while and then I slept while he watched, awake with his arrow strung. But nothing happened until we were coming home.

We passed a flat place where there was a prickly pear growing. I said: "I'm going to eat some." So my husband lifted me off the horse. "Hurry up and pick some," he said. We had a basket hanging on the saddle. I picked the fruit and my man cleaned it and we filled that basket. Then we sat down to eat.

Look, the sun was just coming up. I was facing east and I looked up

4: Joseph et al D, E-5 (1942-1943) 1949
NU28 Papago NU28

Chapter III

MAKING A LIVING IN THE DESERT

241 IT IS obvious to the casual visitor that, even today, making a living in Papaguería demands continuous hard work and careful use of every available resource. Up to the eighteenth century the Papago were semisedentary farmers, who supplemented agriculture with hunting and the gathering of wild plants. Their way of life depended upon making the best use of rainfall and run-off, for the few year-round sources of water were in the mountains. Corn, beans, and squash were planted in small fields in the valleys where the washes fanned out, and, when the July rains came, the flash-flood waters spread over the ground. In many places flood waters were led from the wash to the fields by short ditches, but year-round irrigation was not possible because the washes ran only after a heavy rain. As noted in chapter ii, there is some evidence of an effort to canalize water from the mountains to the fields.

312 The people could remain in the valleys as long as there was water in the
● 221 *charcos*—which were the only source of water except the flood waters of the washes. When the *charcos* dried up, the villagers moved back to the permanent springs or shallow wells in the mountains. In September and October the Papago harvested their crops, dried what was not immediately used, and stored it in baskets which could be transported easily.

222 Wild plants were an important supplement to field crops, and from April through September much time was spent in gathering them. In the spring the cholla cactus buds were dried and stored, to be boiled and eaten later. In April a kind of wild greens matured. In May and early June came the important saguaro harvest, when families camped in the foothills and picked the juicy fruit from the tops of the tall cacti. Some they ate fresh, and some was dried whole to be used later as candy, though the greater part was boiled down into jam or syrup, and stored in jars to be used as sweetening or to be fermented into wine during the rain ceremony (see chap. vi). In July and August some of the people crossed the Baboquivari Mountains to the high grassland and

5: Castetter & Bell N-5 (1938-1940 1942
NU28 Papago NU28
Pima NU29

Gila occasionally failed, and Russell[21] tells us this happened about every fifth year; this is supported by Anza, Eixarch, Font and others.[22] At times the river overflowed, destroying irrigation canals and washing out crops. Under such conditions of drought, flood or crop failure from other causes, the balance of food supply was markedly shifted in favor of the products of food gathering and hunting. In fact, in unfavorable years food was often as scarce as among the Papago, and the Pimas at such times might live with relatives whose crops had been good.

Aboriginal Pima agriculture was largely dependent upon canal irrigation from the Gila, although in places they used flood water from the washes, or water coming from the mountains in times of heavy rains and diverted by the use of temporary dikes on the flats.

Our field studies, as well as the early documentary material, reveal that the Papago, living in a very arid area with meagre agricultural possibilities, had imposed upon them a semi-nomadic life, planting and caring for their fields in the rainy period, and wandering about exploiting to the utmost the wild animal and vegetable resources of the land the rest of the year. For a period of at least three months wild plants were gathered by women; hunting was done by men, although it attained the status of a major occupation only among certain individuals. Anza[23] noted that in winter especially the Papago almost completely deserted their territory, and pictured aspects of their economy thus: "The Papago Indians who dwell in them live in greater misery and poverty than can be imagined. Seldom have they any fixed habitation, because, driven by necessity, they wander almost continually, sometimes in the sierras to maintain themselves by hunting deer, wild sheep, rats and certain roots; at other

21 Russell, *Pima*, pp. 66-7.

22 Bolton, *op. cit.*, III, 19, 353; IV, 45; *Report of the Commissioner of Indian Affairs* for 1871, p. 359; *ibid.* for 1875, p. 214; *ibid.* for 1878, pp. xxxix, 3; *ibid.* for 1904, pp. 7-21.

23 Bolton, *op. cit.*, II, 17, 260-61.

5: Castetter & Bell N-5 (1938-1940) 1942
NU28 Papago NU28

times in the arroyos to live on the bean of the mesquite, and again in the plains, seeking the pitaya, the tuna, the sahuaro and other wild fruits. Sometimes they go to the Colorado River to obtain food amongst the Yumas through their skill in their disorderly dances, and at other times down to the missions of Pimería where, by the same means and by their tenuous labor, they obtain a little grain, and a few pieces of Sayal to cover the most immodest parts of their bodies." A similar uncomplimentary characterization of the region from Caborca to the mouth of the Colorado was given in 1764; the author, after describing the poverty of the country, referred to the Papago as eating "seeds of forage, herbs and wild fruits, and even rabbits and rats." Also, "Papagos is the name given by the Pimas to those particular Pimas who live in the desert as far as Tucson and ... up to the Gila, living on seeds, grass, rabbits, rats and wild fruits."[34] The same reference laments the poverty of the Papago country, stating these Indians at times went to the villages of the other Pimans where they worked as servants merely for their food, even going as far as San Ignacio and Dolores; they were so fond of meat that they ate horses and burros, and in returning to their lands even stole and ate dogs. Pfefferkorn,[35] too, describes the inferior basis of Papago subsistence.

In the Papago country permanent sources of water in association with tillable land are rare. This situation necessitated a compromise between sedentary life in villages and a migratory existence which expressed itself in seasonal movement usually between two kinds of villages. Those known as The Wells were situated at permanent sources of water in the mountains or foothills. The other type of village, designated The Fields, was in the open desert country adjacent to the cultivated areas, and twenty to thirty miles distant from their winter villages. Papago semi-nomadic life thus was not dictated primarily by the needs of hunting or agriculture but to

[34] *Documentos*, 3rd ser. IV, 554, 838; *Rudo Ensayo*, pp. 189-90.
[35] Pfefferkorn, *Beschreibung der Landschaft Sonora*, I, 10-12.

5: Castetter & Bell N-5 (1938-1940) 1942
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delay and very hot weather at time of maturity reduces the crop. Barley, however, is sometimes sowed as late as February. Early plantings of winter barley and wheat at San Xavier and on the Gila were, and are, infrequently damaged by late frosts coming the latter part of March and early in April. The best yields of Pima cotton have been obtained from plantings made before May 1.[37]

The agricultural picture for those Pimans (chiefly Papago) who pursued *de temporal* farming follows: During winter, families camped as near as possible to a permanent source of water in the foothills and moved down to their fields only after the heavy rains had begun so as to be certain that drinking water would be available. It very rarely rained before sahuaro harvest, but if rains did come during this period they caused the ripe fruit to spoil on the trees. At the onset of rains the Papago stopped gathering the fruit and began planting. Also, if it rained during the sahuaro harvest drinking ceremony this ritual was terminated, as its purpose had been accomplished.

The season in Papaguería was concentrated in July and August, when almost all of the meagre annual rainfall occurred. Sporadic showers began toward the end of June, and by mid-July there were heavy thunderstorms if the season were good. It was immediately after the ground had been moistened by these rains that the Papagos did their *de temporal* planting, which was thus governed by the rains rather than season or temperature. As these rains might be local, some variation occurred in the planting season in different areas. Both Papago and Pima maintained that in early days there was always more rainfall than in recent years, the main reasons being that "the earth was younger and had greater powers and the Indians more carefully observed the rituals in those days."

July was known as the "Month of Rains," and August as the "Month of Short Planting." Plantings could be made up

[37] King, Beckett and Parker, *Agricultural Investigations*, p. 24.

5: Castetter & Bell N-5 (1938-1940 1942
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to the middle of the latter period and still mature, but if the heavy rains were delayed beyond this the Papagos sometimes did not plant at all since the growing season would be too short before frost. The latest safe date for sowing maize is now regarded as about August 17; for teparies, August 20-25. Under especially favorable moisture conditions two sowings of teparies might be made, the early one after the first summer rains, the second as "short planting" in mid-August. At present this late planting period is regarded as much more desirable for common pink beans and limas, since they go mostly to stems and leaves if planted early. If no planting were done, this changed their whole plan of life. Sometimes they ate their seed corn and beans, and spent the rest of the summer food gathering; then in winter worked for the Pimas in Sonora or on the Gila, earning their food and seeds for the next year. Due to the erratic rainfall, a crop often had to be reseeded, and even then there might be no harvest. In 1927 the tepary crop had to be planted three times on some parts of the reservation.

After the first heavy rains all Papagos hastened to plant their crops in order to get them up before the soil again became dry, always beginning with maize. Ordinarily only one planting of each crop was made, but, in the event of another period of rainfall within two or three weeks, a second planting might be made if land were available.

These Indians rarely planted anything before the rains started; a few individuals might plant small patches of corn, never any other crop, in the hope that the rains would soon begin and thus give them an early source of food. This could not be risked on any large scale, however, both on account of the uncertainty of the rainy season and the possibility of floods washing out the planting.

Since the fairly widespread cultivation of wheat within the past few generations, the Papago have modified their program to the extent of sowing wheat any time from late November to February, depending upon the rains, although

5: Castetter & Bell N-5 (1938-1940) 1942
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they much preferred to have it in by the first of January. If sowed late the plants were short and the grains small, due to the effect of high temperature, or plants might be damaged by late frosts at the time of heading. In no case did they make more than one planting. Otherwise they continue to pursue their "thunderstorm" planting as they have always done, living at the *temporales* during the summer months only.

Method of Planting

In the main, Pima pursued irrigated agriculture and customarily did their planting after first heavily irrigating the land and allowing it to dry out for about a week. Unless water from the Gila were available, it often happened that this one irrigation constituted all the moisture that crops received. Papago farming however was of the flood-water type, the seed being planted in moist ground at the mouth of a wash after it had been flooded by the first summer rains. The washes, usually dry for the rest of the year, were at that time filled for several hours with a torrent of muddy water which sometimes covered the flood plain to a depth of two or three inches. Here they put in their crops, knowing that even with very low rainfall a crop would mature if the rains were not too long delayed and surface run-off or sub-surface flow favorable.

Pima-Papago sowing aboriginally was done entirely with the planting stick; this continued well into modern times and several of our old informants, both Papago and Pima, have had considerable personal experience in its use. In this connection Díaz, writing in 1774 of the extensive cultivation of wheat, maize etc. by the Pimas, noted that all their fields were cultivated "with no more oxen and no more implements than a wooden stick, with which they make holes in the ground and go slowly burying the seed."[18] Informants invariably regarded ancient farming with the planting stick as superior to modern methods.

[18] Bolton, *Anza*, II, 304.

6: Densmore E-5 (1920)1929 NU28 Papago NU28

(pl. 5), with which some of the most interesting legends of the Papago are associated. It is a peak in the Coyote Range. According to Lumholtz, the name Baboquivari, or Babokivari, is a Spanish corruption of Vavkivolik, meaning mountain (*vav*) narrow around the middle (*kivolik*). When seen from the south this mountain appears to be drawn in at the base.[18]

The principal industry at Vomari is cattle raising, and the water holes are valuable, as in all desert regions. The inclosure around the water hole at Vomari village is shown in Plate 6, *c*.

Santa Rosa village was almost deserted at the time of the writer's visit, the Indians having gone to work in the fields along the Gila River. The doors of the houses were barricaded with brush (pl. 6, *a*) or with a large grinding stone. One family remained and was visited. An interesting ramada (pl. 6, *b*) was near their house.

MUSICAL INSTRUMENTS AND THEIR USE

Four musical instruments are in use by the Papago. In some classes of songs only one instrument is used and in others it is permissible to use two sorts of instruments.

1. *Gourd rattle* (*cakot*).—This was used with the songs to bring rain and with songs used in treating the sick. No other instrument was used.

2. *Scraping sticks* (*hiohkat*).—These were in pairs, one stick being slightly curved and notched, the other smooth for rasping downward and upward across the notches. Two pairs were obtained by the writer, one having 15 notches and being about 2 feet long, the other having 11 notches and being about 18 inches long. These were used with the medicine songs that come from the ocean and in the Viikita. They were used either resting on the basket-drum or held in the hand. Their use with the basket-drum is shown in Plate 7, *a*.

3. *Basket-drum* (*tamoa*).—Any basket of medium size that was in household use could be used as a drum by inverting it on the ground and striking it with the hands. The one obtained by the writer has been used for this purpose and is 16½ inches in diameter and 5½ inches in depth. Preparatory to its use the basket was dropped on the ground in such a manner as to cause an explosive sound that could be heard a long distance. Three or four men could play this instrument at once, kneeling beside it and striking it with their hands. (Pl. 7, *b*.) Some of the men might shake a rattle with the left hand. Drum and rattle were used in the *Limo* and Bat dance.

4. *Flute*.—This instrument (pl. 1) is made of cane, the outer septums removed but the middle septum retained. Two small holes are made from the outside into the bore, one on either side of the

[18] Lumholtz, Carl, New Trails in Mexico. New York, 1912, p. 91.

7: Lumholtz N-5 (1909-1910) 1912
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missions furnished the troops with horses. In the Papaguería proper there were well-to-do missions such as Caborca, but the nature of most of that country would indicate that they were generally on a modest scale. There was one in Sonoita and two on the Gila River. In 1751–3 there was a revolt in Pimería Alta, and in 1840 the Papagoes again revolted against the government.

With the expulsion of the Jesuits in 1767, and later of the Franciscans in 1828, the missions as well as the forts decayed and vanished. Changing political conditions in Mexico also contributed toward their disappearance. To-day the former missions interest few and are left to the archæologist to trace. Such has been the fate also of the missions among the Yaqui, Opata, and Seri Indians.

As for the Papago, the greater part of the tribe never could be induced to live in pueblos, or villages, which was always the policy of the Spanish missionary. In spite of the efforts of the Jesuits and Franciscans, the Papagoes are still living in their *rancherías* as of old, half nomadic in habit, resorting in the winter to the sierras where water is more plentiful and where their cattle, horses, mules, and donkeys find good grazing ground. In the summer they move to the broad, flat valleys to devote themselves to agriculture which is made possible by the aid of the showers that fall in July and August. They do not usually pursue irrigation beyond the diverting of rain water into ditches. In the summer they raise maize, beans, watermelons, and squashes, and in the winter when infrequent light showers usually may be depended

7: Lumholtz N-5 (1909-1910)1912
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seventy years ago—because the old men who had charge of the ceremonial objects of the feast had died, and it was decided that the latter should be taken care of at Quitovac.

These sand people were intelligent, healthy, and able-bodied, and managed to make a good living in an absolute desert. Their existence depended upon the knowledge of the few places in the mountain ranges, not even one in each range, where rain fills the tinajas, as well as of the few places along the coast where water can be found by digging for it. Once where to look for water is known, the difficulties in making a living out there are not so great as one would expect. In hot weather they followed jack-rabbits in the loose sand until the latter were exhausted, and caught muskrats by burning the accumulations of cactus spines with which those animals keep enemies away from their burrows. They also killed mountain-sheep, which were not a difficult quarry, with their bows and arrows, especially in the large craters, and they were even able to approach mule-deer and antelope near enough to kill them by the same weapon. Lizards were eaten. At certain seasons they went to the coast for the fishing, catching as many fish as they wished.

A single agricultural site may be attributed to the sand people, called Súvuk, south-east of Tinajas de Emilia, in Pinacate. Maize, squashes, and beans were planted here by means of a stick, on a very small scale, but the majority of these people had no agriculture whatever. They found good edible plant food in the dunes, especially *ammobroma sonoræ*, the wonderful camotes

7: Lumholtz N-5 (1909-1910)1912
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184 willow as material. Arrows were made from the arrow-
411 bush. Arrow-points of hard stone have occasionally been found in that country, but never stone axes.

184 They had foot-races and also practised the game of
[526] throwing with the end of a thin pole two short pieces of wood which are linked together. (Page 89.) In the
184 winter time they lived at a higher elevation in the moun-
●221 tains where they erected grass huts. Once a year a jour-
[439] ney was made to Yuma to barter with the Indians there, and maize, tépari beans, and squashes were exchanged for baskets and sea-shells. Remnants of these people are
184 living at Quitovaquita and the Growler Well, both places
361 in Arizona. A few families are said to live near the railway station, Adonde, near Wellton, on the Southern Pacific line.

[pp. 333 to 343 not processed]

11: Hoover U-4, 5 (ca. 1930) 1935
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After a crop failure they prepare for a new crop with as much care as if a harvest were assured.[3]

In the Papago country, dependable sources of water and land which could be tilled were seldom found close together. The Papago adjusted themselves by a compromise between settled village life and nomadism through inter-village migration, commonly between two villages. Those of one type were reserve villages located at the foot of the mountains or in the foothills where there were sources of water that could be relied on. The other villages were out on the open plains adjacent to the fields and were farming communities temporarily occupied. In recent years, with the digging of deep wells near the latter villages, their relative importance has been reversed and the inter-village migrations have lost their seasonal character.

THE OLD HEAD OR PARENT VILLAGES

The present day Papago villages may be traced back to about twelve common centers prior to 1860. Each of these represents a tribe which, spreading from the main village or pair of villages, has established new communities. Some of these parent villages no doubt sprang from a few of the very oldest villages as Kaka, Achi (Santa Rosa), Anegam, Tecolote, and Gue Va (Quitovac).[4] The tribal areas coincide fairly well with the larger units of plains or drainage basins, imperfectly set apart by mountain ranges or groups. The parent villages with their descendant villages are as follows:

1. *Tecolote*, on the Tecolote plain, south of the Quijotoa Mountains had as its companion or reserve village, Cobabi, Sonora. A second reserve village developed at Cabota, also south of the boundary. Tecolote was a rallying point against the Apache, but now its people are scattered in a number of small communities or rancherias on the surrounding plain, such as San Rafael or Papala-vakamukik, and San Ignacio, with Molonites on the western front. The old village site is now virtually abandoned. Tecolote Indians settled Vamori, Poso Verde, San Miguel, and Indian Oasis. They also make up in part the villages of Chulik, Topowa, and Kavolik. A part of the Vamori people came from near Caborca in Sonora.

2. *Kupk* (Copeka), with its descendant villages and people, occupies the Quijotoa plain. Its companion reserve village, San Antone and Kupk itself, have shrunk to insignificance. Kupk was parent to Kavolik, Pisinemo, and Haal Muik, with their reserve village, Poso Blanco; and in recent

[3] W. J. Spillman, Extra-dry Farming (Farm Journal, March, 1928, p. 22).

[4] See also Carl Lumholtz, New Trails in Mexico (New York, 1912), pp. 355–56.

11: Hoover U-4, 5 (ca. 1930) 1935
NU28 Papago NU28
Sand Papago

361 9. *Anegam*, of the upper Santa Rosa and tributary valleys, is the new
621 site of the village Omik-vaxia (Salt Well). The latter was located on "the strip" withheld from the reservation in 1917. The Indians were at that time forced to move their village. With the inclusion of "the strip" into the reservation, some return movement may be expected. Copperosity (Chuopo) was the reserve village. Kukomalik was also settled by these people. Anegam is now one of the largest of all the villages.

10. *Quajote*, on the plain between the Slate and Vekol Mountains, with its reserve village, Bitter Wells, is parent to the villages northward, toward Casa Grande. Some of these people settled at Santan on the Gila River and on the Salt River, and are living among the Pima.

11. *Komalik* is the old Baboquivera Valley village. Its ancient reserve village was Comobabi, Sonora, but nearer reserve villages developed along the Baboquivera Range, the most important of which was Fresnal. They no longer trek to Comobabi, and this village together with Cobabi and the neighboring communities of the piedmont and valleys on the east side of the Sierra de Cobota, Sonora, although of independent origin, have, by virtue of geographical unity, propinquity, and the international boundary, become a distinct unit in Sonora.

221 12. The *Sand Papagos* have been the most nomadic of the Papago
361 tribes. They occupy the truly arid region west of the Ajo Mountains.
621 Rainfall diminishes toward the Gulf of California, where it averages as
[32] little as two and one-half inches a year.[6] The reservation does not extend
184 beyond the Ajo Mountains, and there is no need for it, as the region is and must remain virtually uninhabited by whites except for the former copper mining camp at Ajo. The existence of these people depended upon their knowledge of the places in mountains where there are natural water tanks, such as Tinas Altas,[7] the Tule Tanks, and the Papago Tanks. The latter is a small oasis with an abundance of shade, grass, and a little ribbon of flat fertile valley.[8] For food the Sand Papagos ran down jack rabbits in the loose sand, killed mountain sheep, mule deer, and antelope with bows and arrows, and caught muskrats. They ate lizards, and at certain seasons went to the coast to fish and to obtain salt. Only a single agricultural site has been attributed to these people, southeast of Tinajas de Emilia in Pini-

[6] Godfrey Sykes, Rainfall Investigations in Arizona and Sonora by means of Long Period Rain Gauges (Geographical Review, April, 1931, pp. 229–33).

[7] Kirk Bryan, The Papago Country, Arizona: Geologic, and Hydrologic Reconnaissance with a Guide to Desert Watering Places (U. S. Geological Survey, Water Supply Paper 499, Washington, pp. 132–34).

[8] W. T. Hornaday, Camp Fires on Desert and Lava (New York, 1909), pp. 181–82, 235.

11: Hoover U-4, 5 (ca. 1930) 1935
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cate. Their vegetable food was largely the camote, an edible root found in the sand dunes, together with the beans of the mesquite and the fruit of the saguaro and pitahaya cacti, for which they came as far as Quitoboquito and the lower Sonoita River.[9] A few of them even now have temporary camps, as of old, south to the Gulf.[10]

Quitovac, the old head village for the Sonoita Valley, is Sand Papago in kinship. Descendant therefrom was the Papago village at Sonoita and the now extinct village of Tak and the nearly extinct village, Quitoboquito. Sonoita was an attractive and favored site, as the Sonoita River is here a permanent stream. The present village is composed mostly of Mexicans, numbering about 600, who crowded out the Papago. At present there are five Papago families with about sixty people at the lower end of the village.[11] Quitoboquito is a small oasis with one of the largest springs in the Papago country.[12] It never was but a small village,[13] and the population is now reduced to one half-breed family operating a cattle ranch. The spring is on the American side of the boundary line, but the fields and ranch are in Sonora.

Several small villages of Sand Papago are located around Ajo. They are a nomadic and very poor people, having small houses and a field here and there. The largest remnant of the Sand Papago is located at Dome and Blaisdell, about twenty miles east of Yuma. The population of the two villages totals about two hundred. They have fields along the Gila River and work as laborers on the Southern Pacific Railway.

FACTORS INFLUENCING SHIFTS OF PAPAGO VILLAGE SITES OR OF THEIR POPULATIONS

Several factors have contributed toward a disintegration of the older and larger villages. To begin with, a degree of concentration was a necessity for security, especially against Apache raids. As the Apache extended the range of their raiding activities over the Santa Cruz and Altar Valleys, the Papago abandoned all out-lying villages.

At this time the old village of Poso Verde, Sonora, was deserted and its people went to Comobabi, Sonora. The place became frequented by Apache bands. In 1874 the only evidences of habitation were the remains of a few bacquals and of an old adobe fort built by the Papago as a protection for their frontier village and grazing range. The "well" was described as a sort of pit or natural tank with a strong flavor of alkali, cow-manure, dead coyotes, and decayed vegetables.[14]

[9] Lumholtz, pp. 330–31.

[10] A list of the former camps of the Sand Papagos is given by Lumholtz, pp. 394–97.

[11] A Papago family may include married offspring living under the same roof.

[12] Kirk Bryan, pp. 164–65.

[13] Hornaday, p. 122.

17:Castetter & Underhill N,E-5 (1931-1934) 1935
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soon after his death and their later history, in spite of the picturesque labors of the saintly Garces, shows no great revival. The Papagos, after a brief Spanish influence, were left to their own devices. They had acquired horses from the Spaniards, and had learned to plant wheat and some imported vegetables and fruits. Their houses gradually changed and adobe dwellings came into use, and as they adopted clothing it was the colorful mantilla and the Spanish cowboy costume which appealed to them. Many had been baptized by Kino and they continued to seek the priests so as to get for their children Spanish names. Except for these changes their old life continued, while the Pimas, whose contact was with the American whites of gold rush days, changed more rapidly. This paper therefore presents a brief account of Papago customs and ethnobiology as reported by the first Spaniards and as seen in the remoter villages at the present day.

The Papago country is one of the hottest in the Southwest; the annual rainfall is about five inches and this takes the form of violent storms in the summer, when for a few hours the washes run full. The country is a series of flat valleys between abrupt low ridges or hills, and it is only in the hills that there are springs which give a permanent water supply. Therefore, to get even drinking water the Papagos had to lead a migratory life, although it was a migration within set bounds. In the summer, after the torrential rains, they moved to the flat land to plant their small gardens, and from this base scattered out on food-gathering parties. The women brought in leaves, fruits, seeds, and roots; the boys hunted rabbits and birds, while the men attended to what agriculture was possible. They dug a reservoir which supplied them with drinking and washing water while it lasted, after which the whole village had to move.

There was generally a winter camp where all the members went, and this was called the Well, while the summer dwelling was known as the Fields. At the Well every family

17:Castetter & Underhill N,E-5 (1931-1934) 1935
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At the Well every family had a house or some sort of shelter, and there they kept a duplicate set of heavy household utensils such as jars and grinding stones.

When they settled for the winter the men hunted deer in the nearby mountains and the women made pottery and baskets, although many families wandered about hunting and trading and did not settle. The Altar valley in Sonora was productive all the year and families from the north traveled down there to work for their richer kinsmen. There was, in fact, a constant going to and fro over all Papagueria.

In June the white flowers began to appear on the giant cactus *(Carnegia gigantea)* and then every family returned to pick the fruit and to carry it down to the summer villages for their great yearly ceremony which would bring the rain. The rains came in July, then the fields were planted and the new year had begun.

In recent days these migrations have been extended rather than otherwise. The Papagos now plant winter wheat, as they were taught by the Spaniards, and must come home in May to harvest it. Often they go to the Gila and harvest the Pima crop, working on shares, and in July they go again to the Gila to pick the Pimas' cotton. Thus there are only a few months in the year when the people can be found at either the Fields or the Wells.

Houses at all the villages are now made of adobe. In the old days they were low, brush covered structures, of what has been called "wash basin shape," and the ceremonial houses are still made on that ancient pattern. There were no windows and no smoke hole. The door was a low arch, just high enough for a man to crawl through, and the only furniture was a number of mats made of sotol strips *(Dasylirion wheeleri)* laid around the edge of the one room, and which served both to sit and to sleep on. Valuable property, such as the man's bow and arrows and the woman's basketry materials, were thrust into thatch or hung from the rafters.

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The principal aboriginal crops were corn, beans, and squash, to which the Spanish missionaries added wheat, kidney beans, lentils, vetch, chick peas, and possibly watermelons. These new crops, however, were not grown in significant quantities until the last few generations. Wheat could be planted in February and harvested in May, and corn was regularly planted in July or August when the summer rains came; thus two grain crops a year became possible, greatly increasing the agricultural potential of the area, although it was still limited by the extreme variation and scarcity of rainfall. [221]

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The typical family was made up of the parents, their children, and the wives and children of the sons. Such units were grouped into villages with a tendency for village members to be related through the paternal line. Like other southern and western Arizona groups, the family was the important economic unit, with each family responsible for its own subsistence.

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Religious practices were centered around the recurring events of the annual economic cycle interspersed by many curing and other personal crisis ceremonies. The regular annual round of ceremonies included as its most important events a rain ceremony in early summer, after the gathering of the fruit of the giant cactus, at which the fermented juice of the fruit was drunk, and a deer dance in the autumn or early winter when the people had moved into their mountain localities from the summer field villages.

with unimportant exceptions at the highest elevations, the average daily temperature (maximum plus minimum divided by two) in July is about 90° F. and in January about 50° F. In the winter, temperatures sometimes go below freezing, as clear nights result in intense radiation. The growing season, however, between the last spring frost and the first fall frost, ranges from 250 to 300 days. Since the first fall frost comes late (at Ajo, December 16; at Tucson, November 19), there is generally a period of 100 days or more after the start of summer rains in July before crops might be damaged by the cold.

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Table 1. Temperature and Growing Season at Selected Locations On and Near the Papago Reservation

Location	(Degrees F) Temperature		Killing Frosts		Growing Season
	Max.	Min.	Spring	Fall	
Presmal School	113	13	Mar. 16	Nov. 21	250 days
Tucson	111	6	Mar. 19	Nov. 19	245 days
Ajo	115	17	Jan. 27	Dec. 16	323 days
Casa Grande	122	17	Mar. 19	Nov. 19	255 days
Gila Bend	123	11	Feb. 16	Nov. 30	287 days

(From "Soil Conservation Program, 20-Year Period, Papago Agency, Sells, Arizona, 1954", File 344.11, Papago Agency, Office of Land Operations, Sells.)

Schuchk contains but three permanent co-resident groups. There are no churches. During the school year the cook and maintenance man live here. There is a telephone for general use of the district, and, there is a permanently residing pair of Anglo families. Thus, with its phone, its school, its central location for the district council, Schuchk may be classified as a service center but not a village. 621 361 [365] [62]

Tat Komoli (Jackrabbit) and Shopishk (Sif Oidak District). According to two informants living in Gu Komelik, Tat Momoli contains but three families. There is a church, but no feast house. The entry road is in very poor condition and the Catholic priest seldom visits the village.

Only two people live in Shopishk according to one informant. There is no church and few people visit this place. Nevertheless, a woman lives here who is somewhat famous for her pottery. [323]

In addition to the above settlements, there are about 100 locations which are occupied either permanently or temporarily for a wide variety of purposes. In most instances, they are used by people engaged in stock raising, or in a combination of stock raising and farming who must live more or less permanently near their holdings. It must be recalled that the main Papago Reservation is an area of 4,328 square miles with relatively few miles of improved roads. Some other localities are used temporarily or 361 221 [233] [241]

361 Some other localities are used temporarily or
221 seasonally as cattle and farm camps and others are used
[222] during the season of saguaro fruit harvest. It has been noted that in some instances scattered settlements are also used as "vacation" homes.

161 The Papago Population. The aspect of the Papago population most important to this study is its small size,
[162] relative to the large area it occupies. It is scattered over the entire Reservation in small villages, none of more than two or three hundred people with the exception of Sells,
[433] the largest town, where about 650 reside (Table 5). Never-
[182] theless, because the resources of the region are limited, the relatively small population is supported only inadequately, and its exact size is of importance in evaluating the relationships between the people and their resources.

[162] According to the count completed by the Bureau of Ethnic Research for the year 1959, which will be reported on in detail below, the total population of the main reservation was 4,166, with 628 additional Papagos on the San Xavier and Gila Bend reservations and 6,981 living elsewhere or with residence unknown, for a total living Papago population of 11,775.

The main reservation population of 4,166 compares with a total of 5,313 Papagos located on the reservation in 1914, according to a count made by Herbert V. Clotts (Clotts 1915). It must be assumed that there were relatively few Papagos off the main reservation in 1914 and

Population Conclusions. Two very clear trends are indicated in our analysis of the total Papago population: (1) Papagos have been moving off the reservation in ever increasing numbers during the lifetime of the present population and (2) contact with the outside world has accelerated the intermarriage of Papagos with non-Papagos. Data, not here reported, shows that the majority of these marriages are between Papagos and members of other Indian tribes.

In addition to the more or less permanent residence shift indicated above, data to be presented in Chapter IV will show a high rate of seasonal and temporary movement off the reservation.

In his preliminary report on the Papago Population, prepared in 1961, Dr. Robert A. Hackenberg prepared an analysis respecting the transitional position of the Papago midway between reliance upon the institutions of native society and the acceptance of the alternatives provided by Federal programs and the opportunities in the surrounding non-Indian off-reservation areas. The following analysis is from his report and is in no material respect altered by the more precise information gathered during the past two years.

Age Distribution. The significance of the age distribution developed from the 1959 figures may be seen through the comparisons made in the following table.

decades of tutelage by the Indian Bureau and tourists. And more Indians were affected than ever before--a quarter of the hitherto ultra-isolated Navahos; all the men in some Pueblos in New Mexico. Defense workers and servicemen learned new standards of living and new modes of behavior.

At the war's end they returned to inadequate reservation lands. For Indian population in the Southwest had leaped far beyond the human carrying capacity of the reserves--small remnants of original Indian territory held in trust for them by the government. While many smaller tribes stabilized at their size of 50 years ago, larger groups are rapidly increasing even though Anglo immigration submerged the total Indian minority ever deeper.

At the same time the Southwestern Indian land base deteriorated in quality so it could support fewer people, because of overgrazing, erosion, and other causes.

> "Faced by these increasing difficulties, many Papago families began regularly to migrate off the reservation to pick cotton and engage in other seasonal wage work during the winter months, while they retained permanent homes in their 'fields' villages where they spent the remainder of the year farming and herding. In time a new dual residence and economy pattern developed among the Papago. By reinforcing the rhythmic balance of traditional culture and personality structures the new pattern apparently met, to a certain extent, both immediate economic needs . . . and deep-rooted socio-psychological needs for security and opportunity for constructive development."*

*Thompson, 1951, p. 71.

WHEN? . . . A Hundred Days

000 To city people in southern Arizona "The Hundred Days" are the first hundred or so in the year when the main industry of the area is in high gear. Then tourists from colder parts of the country flood into the cities to pump enough dollars into the commercial system to last the rest of the year.

461 The hundred days of the cotton farmer come earlier, after the first of September. And they ● 221 are really more than a hundred, extending usually into mid-January. But the cotton picking season is just about one hundred working days long--22 picking days to the month (5½ work days to the week).

Summer heat continues into October, and the picking that began about the first week of September with the opening of the first bolls is hot, sweaty work. More and more bolls open until the first killing frost which usually comes in mid-November turning the plants brown. Then leaves fall off and the last bolls open quickly. After that harvesting is a race against time to pick the lint before rain and sun deteriorate it.

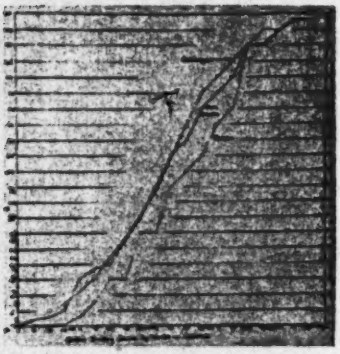
464 The Desert People begin their annual migration
221 to the cotton fields months earlier to work at clean-
[361] ing ditches and weeding and thinning the growing cotton. The harvest hands start moving into labor camps in August, and more continue to move in until the peak of the season in November finds perhaps 4,500 Papagos living in Pima and Pinal county camps.

221 The Desert People are old hands at seasonal migrations. For untold centuries they moved back and forth between their fields in the valleys and springs in the mountains where they went after the harvest and the drying up of valley water holes. The present migration out to the labor camps comes a little earlier than harvest time, and interferes with growing crops on the reserves.

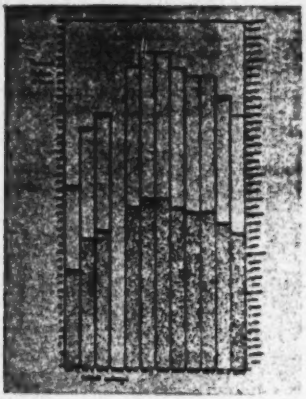
221
602 "Despite the practical difficulties
186 involved, the findings suggest that the
182 development of this physical, social and

[Text continues on p. 22]

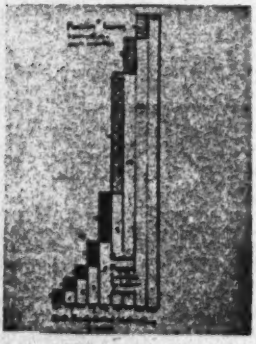
19: Dobyns E-5 (1950) 1951 NU28 Papago NU28



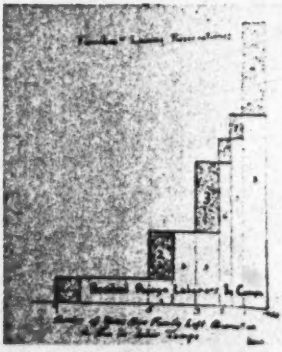
Progress of the Cotton Harvest in 1950. Casa Grande, Coolidge and Tucson areas. (Expressed as the percent harvest was complete.)



Growth and decline of cotton picking force in Arizona, 1950. Shaded portion represents Pima and Pinal counties. (Based on figures issued by Arizona State Employment Service: Arizona Cotton Bulletin, 1950 a,b,c,d,e,f,g. Arizona Farm Labor Bulletin, 1950 a, b, c, d.)



Departure of Papago families for cotton field work, 1950. This chart shows the rhythm of the annual migration from the reserves to chop and harvest cotton.



Migration of Papago farm workers to permanent residence in labor camps in Pima and Pinal counties, Arizona. This chart illustrates the rising importance of year-round wage labor in Papago economy.

psychological base in cooperative family life, with roots in the traditional homeland to counterbalance the wage work cycle is of vital importance to Papago well-being as a firm pivot around which the individual may build his new adjustment to rapidly changing modern conditions. As such, the new dual orientation may well serve as the focus of administrative planning.[1]

However, an increasing proportion of the Desert People who work on cotton farms no longer make an annual migration from reservation home to labor camp. They have moved from the reserves more or less permanently, consciously recognizing themselves as permanent farm workers. Mostly they are irrigators, but do general farm work, and include tractor drivers and other skilled workmen. They contribute some labor to harvesting cotton, since men pick when regular jobs are slack, and wives and children pick off and on. These people made up over a fifth of the Papagos interviewed in the course of this study,[2] indicating that the number of Papagos living on farms outside the reserves all the time is relatively large, perhaps as many as 800.[3] They occupy an important place in the labor picture and economy of the cotton-growing valleys. Their ability to support themselves by wage labor is very important to the economy of the reserves, removing part of the population overload that cannot be supported adequately by the poor lands of the reserves.

This form of adjustment to a radically changed economy has not progressed to its ultimate, however. In South Africa, where European settlers moved in and confined the natives to similar reserves, about 35% of the native population lives permanently on European owned farms.[4] If 800 Papagos live on southern Arizona farms all the time, only about 10% of the population is living on European owned farms outside the reserves. (Perhaps as many live in southern Arizona cities.)

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[1] Thompson, 1951, p. 71.

[2] 12 of 53 families, or 22.6%.

[3] About 2,000 Papagos picked cotton in 1950, and about 4,500 lived in labor camps. So approximately 200 Papago men may be working as year-round farm laboerers, and their wives add another 200 part-time cotton pickers. Their families are somewhat smaller than those of pickers migrating from the reserves.

[4] Hunter, 1937, p. 389.

464 36 166 178 179 [221] The movement of the Desert People to permanent homes in labor camps on European owned farms, abandoning their roots on the tribal lands is a relatively new development. While Papagos have worked for Europeans for almost the entire period of contact, their work has always been brief in duration, a supplemental measure followed by a withdrawal to the homeland. Forsaking overcrowded tribal lands for good seems to have begun only within the last decade, and to have reached significant proportions only in the last 5 years. (Some Papagos have worked for many years as domestics or miners away from the reserves) This late beginning for a class of Papagos severed from their homeland is due to the peaceful nature of contacts between Papagos and Americans and to lack of opportunity for wide-scale farm employment until [122] recent years. The Papago economic base was never [248] destroyed by warfare with the incoming whites as in the case of the Navahos and many other tribes. Over- [161] population on deteriorating reserves did not reach a critical point until about the same time extensive development of irrigated agricultural lands in nearby valleys began, offering a safety valve to those Papagos able to speak acceptable English and perform semi-skilled farm work.

464 166 171 This class of Papago farm laborers is very new compared to natives living on South African farms. Most of them have grown up on European farms, without any stake in native reserve areas. Some are descended from natives forced into farm labor by destruction of their cattle in wars nearly a century ago.[1]

The ties native South African farm workers retain with natives living in the reserves naturally depend on the time they have spent on the farms. Some entirely lack relatives or friends on reserves, and have [602] never visited the reserves.[2] A very few Papago year- [572] round farm laborers no longer have relatives on the reservations. But they all still have friends on the trust lands. They all were born on the reserves. [574] They all still visit their old homes, even if only [186] rarely. They are all very conscious that they are Desert People, and are only beginning to view themselves as people apart.

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[1] Hunter, 1937, p. 389.
[2] Ibid., p. 390.

19: Dobyns E-5 (1950) 1951 NU28 Papago NU28

HOW the Papago Indians Work

THE FAMILY -

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[434]

The approximately 2,000 Desert People who move out into the cotton fields from their reserves to work do not move alone. The family--father, mother and children--moves as a unit.

> "It should be emphasized that, although a larger percentage of his income is obtained from work off the reservation, the Papago wage worker is not generally a footloose migratory laborer according to the usual pattern in the United States. The Papago laborer usually takes his family with him and maintains his home on the reservation."[1]

[162] The Papago family living in Pinal and Pima county labor camps in 1950 averaged some 4⅓ persons,[2] making the total number of Desert People living in labor camps at the peak of the cotton harvesting season in the neighborhood of 4,500.

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The usual Papago family in a labor camp included a father and mother and two or three children. Families with children had 3 oftener than 2.[3] About 60% of the Papago families working in the cotton fields[4] brought school children with them from the reserves. What this meant to public schools in the trading centers of the cotton growing area may be deduced from the fact that families with school-age children had on the average 1.6 such offspring to be taught in the schools.[5] If both father and mother work, this means school authorities in the cotton-growing areas of Pima and Pinal counties should expect to provide educational facilities for .8 Papago school children for approximately 60% of the total number of Papago harvesters.

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[1] Thompson, 1951, p. 71.
[2] 47 families had 208 persons, an average of 4.43 individuals in each family. (Actually these families included some additional persons not enumerated.)
[3] 28 families with children had 64, averaging 2.8857.
[4] Of 31 families giving information, 18 brought school-age children to the camps, or 58.1%.
[5] The 18 families brought 29 school-age children.

594 171 This Papago family including parents and sometimes another adult, with 2 or 3 children is a comparatively smaller unit than native families living on European owned South African farms, for example. There Dutch and English settlers also moved into native held lands, and a class of permanent native farm laborers has grown up. Their average household includes slightly more than 3 596 adults, and 5 children.[1] This is about the size 592 of the Papago extended family living as a household on the reserves. "Most often, and ideally, a household consists of the old parents, unmarried sons and daughters, and married sons with their wives and children--three generations in all."[2] It reflects the fact that living on European operated farms is new to the Desert People, a move accomplished by biological family units in the younger age groups. [177] Only recently as younger Papagos have gone to school and learned white ways have they begun to set up separate households away from their parents.

594 162 Families with school-age children are the largest in the labor camps. The average family size for families with school-age offspring only is over 6.[3] The families with both school and pre-school children averaged over 7 individuals.[4] This probably reflects [165] the high mortality rate of smaller children among the Desert People, whose new-born babies have a life expectancy of only 17 years.[5]

Families with younger parents and all pre-school age children are, of course, smaller, running some 4 individuals, with nearly 2 children per family.[6]

221 596 178 Migration to the cotton fields reinforces the tendency to break up the old Papago extended family into smaller units like our biological family households. This change is most complete among families living in labor camps all the time, having severed their reservation ties more or less completely.

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[1] Hunter, 1937, p. 391.
[2] Joseph, Spicer & Chesky, 1949, p. 45.
[3] 10 families interviewed with 19 school children, 66.
[4] 8 families with 10 school children, 1.25 average, and 14 pre-school, 1.75 average, had 57 persons, 7.125 average, plus.
[5] 8 families with 15 children under 6 had 32 plus people.
[6] Secretary of the Interior, 1949, p. 12.

124 596 594 (178) The change in attitude toward the family is indicated by the thought habits of harvest workers as shown by their answers to inquiries as to whether the entire family was in the labor camp. Well over half replied that all their family was in the camp, although further questioning developed that actually relatives counted part of the traditional extended family remained on the reservations. These laborers were thinking in terms of the biological family rather than the traditional extended family group.[1]

27 464 602 574 Papago harvest hands are not as socially and economically independent of the relatives they leave behind on the reserves as one might think. Strong cultural ties bind them to their relatives. The farm laborers know they will return home for most of the year---the harvest season is only an interlude. Even during picking season, Papago laborers return to the reserves on religious occasions, and meet their relatives who cannot leave the reserves to earn cash. On the other side of the picture, the stay-at-home relatives care for the property and animals of the wage laborers while they work.

464 56 27 602 (855) Most frequently it is the older generation which has less knowledge of English and Anglo working habits that stays on the reserves. Among workers who recognize that part of their family stayed on the reserves, about 60% left parents.[2] One pattern of behavior for laboring Desert People is to leave school children with their grandparents on the reserves so their schooling will not be interrupted by the move to the cotton farms and back. Perhaps a sixth do so.[3] Another pattern is for siblings to stay home to care for property left on the reserves. Again, about a sixth of the cotton pickers relied on such a relative in 1950.

596 464 27 About one family of 10 is either so large or so poor that all members of the extended family leave the reserves to work, but go to different camps.[4]

[1] 60% of those asked said the whole family was in camp (21 of 35 families giving information).
[2] Of 19 families giving information, 12 had parents on the reservations---63.2%
[3] Of the 19 families, 3 left children with their grandparents---15.8%.
[4] This was true of 2 of the 19 families giving data, 10.5%.

WHERE THE PICKERS LIVE

221 464 361 The people who move into the irrigated valleys of southern Arizona to harvest the cotton crop must live somewhere while they work in the fields. Like other migrant farm laborers

> "During a considerable portion of each year they live perforce in houses or shelters which are not their own homes and in localities which are not their own home communities. Their children must suffer a series of breaks in school attendance and be denied many of the community privileges which are the normal lot of other youth. These conditions are important to employers of migrant workers. Good facilities and conditions help to induce workers to accept employment while bad conditions make it difficult for employers to obtain the workers required."[1]

In 1950 cotton harvest hands had essentially two choices in southern Arizona. They could live in cities or towns and ride out to the fields every morning, or they could live in labor camps on the farms and walk to the fields.

464 466 484 494 361 A new pattern of mobility is emerging in the Arizona cotton harvest which would considerably surprise someone familiar with the region a decade ago. Many of the 20,000 or so pickers in Pima and Pinal counties lived in towns and were hauled out to the fields each day in trucks or buses in 1950. Labor contractors recruited these crews, and sent them to the best picking available each day. About two-thirds of the cotton farmers in Pima and Pinal counties paid contractors to haul pickers to their fields.[2] About a fifth of the farmers in Pinal county hired pickers who lived in towns, but drove their own cars to the fields instead of working under a contractor.[3] Actually very few farmers relied on pickers driving to work to harvest their crop--those who did planted small acreages close to towns. Most growers hired anyone who came along in his car along with hands hauled from towns in trucks and those living in camps.

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[1] Federal Interagency Committee on Migrant Labor, 1947, p p. 18-19.

[2] 20 farmers of 31 giving data, 64.5%, in Pima county did. 26 of 38, or 68.4%, in Pinal county hired such pickers.

[3] 9 of 38 farmers giving data hired them--23.7%.

[4] 4 of 31 farmers giving information hired them--12.9%.

461 leave for two or three weeks or a month. However, the
796 usual pilgrim to Magdalena, or Chuwhiy Cuwsk at this time loses only one work-week, and those going to San Xavier less. Secondary fiestas in point of time lost from work are the fiesta of St. Francis in December at San Xavier and All Souls at the beginning of November.

461 The graph of migration to the fields shows that some
431 families start picking as late as November. If they come
● 221 in the middle of the month and work until the first of the year at average speed, the man and wife can earn about $280. More than likely they will go to San Xavier December 2, take time off at Christmas, and work only 5 weeks, earning perhaps $230 for their abbreviated season.

Families coming to work during October make more, of course. Those starting to pick in September approach the maximum possible for harvesters to earn. Assuming the worst possible about a family, that the husband loses 2 days each week from hangovers, making only $21 a week, and that the family leaves for Magdalena the first of October and goes home to the reservation until after All Souls, and then spends a week away from work at San Xavier's Saint's Day in December, having come to work the second week in September to begin with, husband and wife should each make about $200, a total of some $400 for the worst conceivable family.

A family which starts work about mid-September, loses the first week of October at fiesta, and spends a week at home sometime during picking season is apparently an average family. It would receive approximately $435 during the season.

461 The picture for American-Egyptian cotton is somewhat
433 different from upland. The bolls are smaller and sharper, and the lint harder to pick out. Papago men and women seem to pick this type cotton at about the same speed. Both sexes average around 100 pounds per day.[1]

434 At the rate in 1950 of $5.00 per hundred pounds, a
461 husband would make $27.50 for a 5½ day week. If his wife
[221] picked 3½ days, the team would earn $45, and if she picked every day, they would receive $55 for their week's work. The "average" family picking American-Egyptian cotton from

[1] Admittedly this figure is based on a very small sample, only 2 men and 2 women.

221 434 461 [466] mid September and losing 2 weeks for trips would earn about $585 during the season. Although this is $50 or so under the amount the same family might make picking upland cotton, the Desert People are willing to pick American-Egyptian varieties. This is a point in their favor with cotton farmers, who have a difficult time hiring enough pickers to harvest long staple plantings. It is 1 reason growers favor Indian cotton pickers--they pick whatever cotton is in front of them, American-Egyptian or upland, scattered or thick, without grumbling. They don't sneak clods or rocks into their sacks to make weight, but on the contrary pick clean, high grading fiber. These are most attractive traits to farmers harrassed by more articulate hands willing to trim profit-fat farmers by sharp practice if possible.

PAYMENT

465 Information gathered in this study indicates there is no differences in cotton pickers' payment for any reason other than growers bidding for labor. Over most of the picking season, pickers of every size, age, and description receive a standard price for their cotton, agreed on beforehand by growers. In 1950 this standard piece-work rate was $5.00 per 100 pounds of upland cotton and $5.00 or $6.00 per 100 of American-Egyptian. Toward the end of the season there was some variation as growers bid for the shrinking supply of labor willing to clean up picked-over fields. Some paid $7 per 100 for long-staple picking. Some paid $2.25 and some $2.50 for "snapping" upland--breaking bolls off entire from the stems. Others paid $3.00 for picking what could be picked and snapping the rest.

There is no such uniformity in method of payment. A majority of growers pay off their hands in cash every time the picker weighs a sack of cotton, or every evening for the weight picked that day.[1] The practice of keeping a cash box in the field to pay pickers as they weigh in is commoner in Pima than in Pinal county. Almost two-thirds

[1] 44 growers of 85 who gave information paid in cash: 52%. The 85 planted 28,630 acres of cotton, averaging 336.8 acres, 2.3 larger than the average of all farms studied, so they may be taken as quite representative.

ECONOMIC NECESSITY

433 **Basic reasons Papagos Work—**

In a rural area, there are not many choices of livelihood—farming, mining, lumbering, raising cattle. [463] [659] The Papago reservations have no timber worth cutting other than mesquite trees for firewood. [313] The Papago reservations are the only lands in the U. S. reserved for Indians which are open to mineral entry by outsiders. [316] Consequently mining claims are held by non-Papagos, and profits go elsewhere. [464] The only way the Desert People can benefit from mines is by selling their labor to the owners.

241 Farming is risky for the Desert People. Only two 311 communities have irrigated lands which can be depended 433 upon for crops. The rest must resort to age-old techniques of flood farming where arroyos spread flood waters from mountains. Spots that can be farmed this way are not abundant. They are being decreased each summer as gullies wash out fields and arroyos cover them with sterile sand and gravel washed down from overgrazed and eroding slopes above. Flood farming was never more than a subsistence measure because of the size limitation on fields, and frequent crop failures from flooding out, frost, or drought. Today, there is little incentive to gamble on a subsistence farm for any Papago able to speak enough English to get a job. For [464] [511] wage labor means a super-subsistence income, even if a substandard one by Anglo lights.

241 Probably every worker on the Papago reservations 433 has noticed the steady abandonment of flood farms. A- 464 mong Papago cotton pickers with these farms, less than 221 half apparently bother to plant any crops at all nowadays.[1] Cotton picking starts just about the time fields need weeding on the reserves, and picking season hits its peak just about the time flood field crops are ready to harvest. This conflict between flood-farm growing season and wage-labor season in the cotton fields results in many Papago laborers not planting crops at all on the reserves.

433 Another factor discouraging flood farm planting is 241 that these small plots produce only subsistence crops 461 at best, even if the gamble against drought and over-

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[1] 6 families of 11 giving information had any crops at all in 1950.

788 the surrounding countryside are beginning to make the pilgrimmage there. The church was built by the Indians to house the statue which is believed by them to have appeared miraculously in the village only a few years ago. Chuwhiy Cuwsk (the name means Jackrabbit Falls Down) is growing in importance as a goal for Papago pilgrims. In 1950 it attracted about a fifth of those making a pilgrimmage from labor camps, probably more than 500 people.[1] Reached by desert trails, the town is not serviced by a bus. Pilgrims reached it on trucks or in cars, or in wagons or on horseback. Most Desert People who traveled to one of the fiestas by wagon in 1950 visited Chuwhiy Cuwsk. The town itself has no permanent water supply aside from its charco, and affords no power supply for bright lights. Portable generators were used in 1950 to light the few temporary bars and restaurants. The merchandise stuffed booths of Magdalena were absent, and the cost of a pilgrimmage was much lower.

461 22 788 524 462 A good many Papagos worked a trip to their homes on the reserves into their pilgrimmage before they went back to picking cotton. Their disregard of what most Anglos consider unbreakable rules for good working behavior baffles and irritates their employers. Pilgrims from Pima county labor camps lost an average of 5[illegible] days from work, in effect a work week, varying from those gone a single day to families absent 3 weeks.[2] In Pinal county, which is even more distant from the pilgrimmage towns, Papagos lost more time from work. Families stayed from 2 days to a month, averaging 9 days away from their picking jobs.[3] This amount of time taken from cotton harvesting just before the peak of the season is reached is frequently incomprehensible to Anglo Protestant cotton growers, and is a black mark against Papago Catholic employees in their eyes.

484 788 511 435 It seems quite likely that most Papago families making a pilgrimmage from a labor camp to Magdalena, Chuwhiy Cuwsk or San Xavier in 1950 spent most or all that they had earned picking cotton up to that time on their pilgrimmage trip. The average sized family working in the cotton harvest needed $90 for transportation, food and lodging in Magdalena for the usual 3-day sojourn, and the added cost of drinking beer and

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[1] 6 of 83 individuals whose goal was obtained, 22%.
[2] Based on information from 8 farmers hiring Papagos.
[3] Based on 20 farms where information was obtained.

19: Dobyns E-5 (1950) 1951 NU28 Papago NU28

INCENTIVES

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All incentives impelling papagos to work for wages in 1950 will continue into the foreseeable future.

WHY

There is no appreciable improvement in reservation resources on the Papago horizon. Congress shows no signs of passing the Papago Rehabilitation Bill while spending heavily for cold and hot wars.

Even were the Papago Development Program translated into reality, a large residue of Papagos will remain unsupported by their tribal lands. They must seek labor outside their reserves.

> "Upon completion of the range improvements, further irrigation developments, and improvement of the flash flood farming areas, it is estimated that the reservation resources will support at a reasonable level of living, not to exceed 800 families. This leaves about 400 families, together with the increase in population, who must be permanently located off the reservation."[1]

464 165 [22] 361 About 150 Papago families are pointing the way for those who must relocate, working in the Ajo mine and in other Arizona cities.[2] Many families are already living permanently on farms where they work. This study indicates perhaps 200 Papagos already work on farms the year round. They represent approximately 200 families of approximately 800 persons, far more than this writer, at least, expected beforehand. More Desert People can find permanent farm employment if they can learn skilled farm labor. Their situation is far from hopeless.

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[1] Secretary of the Interior, 1949, p. 10.
[2] Ibid., p. 10.